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**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)



		Application Number	10/814,995
		Filing Date	March 31, 2004
		First Named Inventor	Nicholas D. Spencer
		Art Unit	1746
		Examiner Name	
Total Number of Pages in This Submission		Attorney Docket Number	ETH 111

ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <div style="border: 1px solid black; padding: 2px;">Remarks</div>	<input type="checkbox"/> After Allowance communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please Identify below): <div style="border: 1px solid black; padding: 2px;">Two pages of Form PTO-1449 and copies of the thirteen references cited therein; Return Postcard</div>
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Rivka D. Monheit, Esq., Reg. No. 48,731 Pabst Patent Group LLP 400 Colony Square, Suite 1200, Atlanta, GA 30361
Signature	
Date	July 16, 2004

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Ronna Berman	
Signature		Date July 19, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



FEES TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 0.00)

Complete if Known	
Application Number	10/814,995
Filing Date	March 31, 2004
First Named Inventor	Nicholas D. Spencer
Examiner Name	
Art Unit	1746
Attorney Docket No.	ETH 111

METHOD OF PAYMENT (check all that apply)

Check Credit card Money Order Other None

Deposit Account:

Deposit Account Number
Deposit Account Name

50-3129
Pabst Patent Group LLP

The Director is authorized to: (check all that apply)

- Charge fee(s) indicated below Credit any overpayments
 Charge any additional fee(s) or any underpayment of fee(s)
 Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity	Small Entity	Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385			Utility filing fee	
1002 340	2002 170			Design filing fee	
1003 530	2003 265			Plant filing fee	
1004 770	2004 385			Reissue filing fee	
1005 160	2005 80			Provisional filing fee	
SUBTOTAL (1) (\$ 0.00)					

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	19	-20* =	0	x	9.00	=	0.00	Fee from below	Fee Paid
Independent Claims	4	-4** =	0	x	43.00	=	0.00		
Multiple Dependent					0	=	0.00		

Large Entity	Small Entity	Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1202 18	2202 9			Claims in excess of 20	
1201 86	2201 43			Independent claims in excess of 3	
1203 290	2203 145			Multiple dependent claim, if not paid	
1204 86	2204 43			** Reissue independent claims over original patent	
1205 18	2205 9			** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2) (\$ 0.00)					

*or number previously paid, if greater; For Reissues, see above

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	
Other fee (specify) _____			
*Reduced by Basic Filing Fee Paid		SUBTOTAL (3) (\$ 0.00)	

SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	Rivka D. Monheit	Registration No. (Attorney/Agent)	48,731	Telephone (404) 879-2152
Signature	Rivka D. Monheit		Date	July 16, 2004



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Nicholas D. Spencer, Sara Maria Morgenthaler, and Seunghwan Lee

Serial No.: 10/814,995 Group Art Unit: 1746

Filed: March 31, 2004 Examiner:

For: **CONTROLLED SURFACE CHEMICAL GRADIENTS**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §1.56 and 37 C.F.R. §1.97, Applicants submit an Information Disclosure Statement, including two (2) pages of Form PTO-1449 and a copy of each document cited therein.

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b) prior to a first Office Action on the merits. It is believed that no fee is required with this submission. However, should a fee be required, the Commissioner is hereby authorized to charge any required fees to Deposit Account No. 50-3129.

Publications

BAIN, et al., "Formation of two-component surfaces by the spontaneous assembly of monolayers on gold from solutions containing mixtures of organic thiols" *J. Am. Chem. Soc.*, 110, 6560–6561 (1988)

BAIN, et al., "Formation of monolayer films by the spontaneous assembly of organic thiols from solution onto gold" *J. Am. Chem. Soc.*, 111, 321-335 (1989)

DERTINGER, et al., "Generation of gradients having complex shapes using microfluidic networks" *Anal. Chem.*, 73, 1240-1246 (2001)

U.S.S.N.: 10/814,995

Filed: March 31, 2004

INFORMATION DISCLOSURE STATEMENT

FUIERER, et al., "Patterning mesoscale gradient structures with self-assembled monolayers and scanning tunneling microscopy based replacement lithography" *Adv.Mater.*, 14, 154-157 (2002)

HERBERT, et al., "Micropatterning gradients and controlling surface densities of photoactivatable biomolecules on self-assembled monolayers of oligo(ethylene glycol) alkanethiolates" *Chem. Biol.*, 4, 731-737 (1997)

JEON, et al., "Generation of solution and surface gradients using microfluidic systems" *Langmuir*, 16, 8311-8316 (2000)

LAIBINIS, et al., "Attenuation of photoelectrons in monolayers of *n*-alkanethiols adsorbed on copper, silver, and gold" *J. Phys. Chem.*, 95, 7017-7021 (1991)

LIEDBERG, et al., "Molecular gradients of ω -substituted alkanethiols on gold: preparation and characterization" *Langmuir*, 11, 3821-3827 (1995)

LIEDBERG, et al., "Molecular gradients of ω -substituted alkanethiols on gold studied by x-ray photoelectron spectroscopy" *Langmuir*, 13, 5329-5334 (1997)

RUARDY, et al., "Preparation and characterization of chemical gradient surfaces and their application for the study of cellular interaction phenomena" *Surf. Sci. Rep.*, 29, 3-30 (1997)

SEHAYEK, et al., "Preparation of graded materials by laterally controlled template synthesis" *J. Am. Chem. Soc.*, 125, 4718-4719 (2003)

TERRILL, et al., "Dynamic monolayer gradients: active spatiotemporal control of alkanethiol coatings on thin gold films" *J. Am Chem. Soc.*, 122, 988-989 (2000)

WU, et al., "Formation and properties of anchored polymers with a gradual variation of grafting densities on flat substrates" *Macromolecules*, 36, 2448-2453 (2003)

U.S.S.N.: 10/814,995

Filed: March 31, 2004

INFORMATION DISCLOSURE STATEMENT

Remarks

This statement should not be interpreted as a representation that an exhaustive search has been conducted or that no better art exists. Moreover, Applicants invite the Examiner to make an independent evaluation of the cited art to determine its relevance to the subject matter of the present application. Applicants are of the opinion that their claims patentably distinguish over the art referred to herein, either alone or in combination.

Respectfully submitted,

Rivka D. Monheit
Rivka D. Monheit
Reg. No. 48,731

Dated: July 16, 2004

PABST PATENT GROUP LLP
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Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <small>O I P JUL 21 2004 U.S. TRADEMARK OFFICE use as many sheets as necessary)</small>		Application Number	10/814,995
Filing Date	March 31, 2004		
First Named Inventor	Nicholas D. Spencer		
Group Art Unit	1746		
Examiner Name			
Attorney Docket Number	ETH 111		
Sheet 1 of 2			

OTHER ART – NON PATENT LITERATURE DOCUMENTS		
Examiner's Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
		BAIN, et al., "Formation of two-component surfaces by the spontaneous assembly of monolayers on gold from solutions containing mixtures of organic thiols" <i>J. Am. Chem. Soc.</i> , 110, 6560–6561 (1988)
		BAIN, et al., "Formation of monolayer films by the spontaneous assembly of organic thiols from solution onto gold" <i>J. Am. Chem. Soc.</i> , 111, 321-335 (1989)
		DERTINGER, et al., "Generation of gradients having complex shapes using microfluidic networks" <i>Anal. Chem.</i> , 73, 1240-1246 (2001)
		FUIERER, et al., "Patterning mesoscale gradient structures with self-assembled monolayers and scanning tunneling microscopy based replacement lithography" <i>Adv. Mater.</i> , 14, 154-157 (2002)
		HERBERT, et al., "Micropatterning gradients and controlling surface densities of photoactivatable biomolecules on self-assembled monolayers of oligo(ethylene glycol) alkanethiolates" <i>Chem. Biol.</i> , 4, 731-737 (1997)
		JEON, et al., "Generation of solution and surface gradients using microfluidic systems" <i>Langmuir</i> , 16, 8311-8316 (2000)
		LAIBINIS, et al., "Attenuation of photoelectrons in monolayers of n-alkanethiols adsorbed on copper, silver, and gold" <i>J. Phys. Chem.</i> , 95, 7017-7021 (1991)
		LIEDBERG, et al., "Molecular gradients of ω-substituted alkanethiols on gold: preparation and characterization" <i>Langmuir</i> , 11, 3821–3827 (1995)
		LIEDBERG, et al., "Molecular gradients of ω-substituted alkanethiols on gold studied by x-ray photoelectron spectroscopy" <i>Langmuir</i> , 13, 5329–5334 (1997)
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		SEHAYEK, et al., "Preparation of graded materials by laterally controlled template synthesis" <i>J. Am. Chem. Soc.</i> , 125, 4718–4719 (2003)

Examiner's Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

¹ Unique citation designation number ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SENT TO: Assistant Commission for Patent, Washington, DC 20231.

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		Filing Date	March 31, 2004
		First Named Inventor	Nicholas D. Spencer
		Group Art Unit	1746
		Examiner Name	
Sheet	2	of	2
			Attorney Docket Number
			ETH 111

OTHER ART – NON PATENT LITERATURE DOCUMENTS

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077046-00023

Examiner's Signature		Date Considered	
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